

What is claimed is:

1. A computer-readable medium having computer-executable
5 components for acquiring color images using an image-capturing
device for use by an application, comprising:

a color management component having color management
functions callable for performing color management operations;

10 a device driver controlling the image-capturing device to
perform image-capturing operations and receiving color image
data from the image-capturing device, the device driver
setting operation parameters for the image-capturing device in
response to a device setup request, the operation parameters
including a color management parameter indicating whether
15 color management is required, the device driver further
controlling the image-capturing device to start an image-
capturing operation in response to a data acquisition request
by the application, receiving color image data for a captured
image from the image-capturing device, and calling a color
20 management function of the color management component to
operate on the color image data of the captured image when the
color management parameter is set to indicate that color
management is required.

25 2. A computer-readable medium as in claim 1, wherein the
color management component is a component of an operating
system.



15

~~SECRET~~

15

20

25

9. A computer-readable medium as in claim 8, wherein the color space conversion includes embedding a destination

profile of the destination color space in the converted color image data.

10. A computer-readable medium as in claim 8, wherein
5 the color profile of the image-capturing device is identified as one of the operation parameters of the image-capturing device.

11. A computer-readable medium as in claim 1, wherein
10 the device driver forwards the color image data received from the image-capturing device to the image-processing application without performing color management thereon when the color management parameter is set to indicate that no color management is required.

12. A computer-readable medium as in claim 11, wherein
the color image data of the captured image has a source color profile embedded therein.

20 13. A computer-readable medium as in claim 1, further including an image acquisition service module operating between the image-processing application and the device driver to deliver requests by the application to the device driver and forwarding color image data from the device driver to the
25 application.

14. A computer-readable medium having computer-executable instructions for performs steps for controlling an image-capturing device for generating color image data for use by an application, the instructions operable to perform a process comprising the steps of:

setting operation parameters of the image-capturing device in response to a device set-up request, the operation parameters including a color management parameter indicating whether color management is to be performed;

controlling the image-capturing device to perform an image-capturing operation in response to an acquisition request by the application;

receiving from the image-capturing device color image data generated in the image-capturing operation;

calling a color management function of a color management component to operate on the color image data received from the image-capturing device when the color management parameter is set to indicate that color management is to be performed.

15. A computer-readable medium as in claim 14, wherein the color management component is a component of an operating system.

16. A computer-readable medium as in claim 15, wherein the called color management function performs a color space conversion that converts the color image data from a color

ce of the image-capturing device to a d
ce.

17. A computer-readable medium as in
destination color space has a substant
n respect to uniform human perception.

18. A computer-readable medium as in
destination color space is the sRGB co

19. A computer-readable medium as in
destination color space has a substant
n respect to luminance.

20. A computer-readable medium as in
destination color space is the scRGB co

21. A computer-readable medium as in
color space conversion is based on a c
ge-capturing device.

22. A computer-readable medium as in
color profile of the image-capturing de
one of the operation parameters of the
ice.

1

SECRET

2

2

22. A computer-readable medium as in claim 20, wherein the color profile of the image-capturing device is identified as one of the operation parameters of the image-capturing device.

23. A computer-readable medium as in claim 14, having further computer-executable instructions for performing the step of forwarding the color image data received from the image-capturing device to the image-processing application without performing color management thereon when the color management parameter is set to indicate that no color management is required.

24. A computer system comprising:
10 an image-capturing device;
a color management component having color management functions callable for performing color management operations;
a device driver controlling the image-capturing device to perform image-capturing operations and receiving color image data from the image-capturing device, the device driver setting operation parameters for the image-capturing device in response to a device setup request, the operation parameters including a color management parameter indicating whether color management is required, the device driver further
15 controlling the image-capturing device to start an image-capturing operation in response to a data acquisition request by the application, receiving color image data for a captured image from the image-capturing device, and calling a color management function of the color management component to
20 operate on the color image data of the captured image when the color management parameter is set to indicate that color management is required.

blub
005204-105500

25. A computer system as in claim 24, wherein the color management component is a component of an operating system.

5 26. A computer system as in claim 24, wherein the color management function called by the device driver performs a color space conversion that converts the color image data from a color space of the image-capturing device to a destination color space.

10 27. A computer system as in claim 26, wherein the color space conversion is based on a color profile of the image-capturing device, and wherein the color profile of the image-capturing device is identified as one of the operation parameters of the image-capturing device.

15 28. A computer system as in claim 24, wherein the device driver is programmed to forward the color image data received from the image-capturing device to the image-processing application without performing color management thereon when the color management parameter is set to indicate that no color management is required.

20 29. A method of controlling an image-capturing device
25 for generating color image data for use by an application, comprising the steps of:

setting operation parameters of the image-capturing device in response to a device set-up request, the operation parameters including a color management parameter indicating whether color management is to be performed;

5 controlling the image-capturing device to perform an image-capturing operation in response to an acquisition request by the application;

receiving from the image-capturing device color image data generated in the image-capturing operation;

10 calling a color management function of a color management component to operate on the color image data received from the image-capturing device when the color management parameter is set to indicate that color management is to be performed.

15 30. A method as in claim 29, wherein the color management is a component of an operating system.

20 31. A method as in claim 29, wherein the called color management function performs a color space conversion that converts the color image data from a color space of the image-capturing device to a destination color space.

25 32. A method as in claim 31, wherein the color space conversion is based on a color profile of the image-capturing device, and wherein the color profile of the image-capturing device is identified as one of the operation parameters of the image-capturing device.

~~A method as in~~
~~g the color im~~
~~device to the~~
~~g color manage~~
~~is set to inc~~

QUBAII⁵

[illegible]